

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2006-XXXX

NPDES NO. CA0078034

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF WILLOWS AND ECO RESOURCES, INC.
WILLOWS WASTEWATER TREATMENT PLANT
GLENN COUNTY

The Central Valley Regional Water Quality Control Board, (hereafter Central Valley Water Board) finds that:

BACKGROUND

1. The City of Willows and ECO Resources, Inc. (hereafter collectively referred to as Discharger) submitted a Report of Waste Discharge, dated 22 September 2005, and applied for permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Willows Wastewater Treatment Plant (WWTP).
2. The City of Willows owns a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Willows and the Northeast Willows Community Service District. ECO Resources, Inc. operates the WWTP. The treatment plant is in Sections 15 and 22, Township 19 North, Range 3 West of the Mt. Diablo Base Line and Meridian, as shown on Attachment A, which is a part of this Order. Treated municipal wastewater is currently discharged, at Discharge Point 001, to Agricultural Drain C, which is tributary to Logan Creek, then to the Colusa Basin Drain, a water of the United States. The plant is currently being upgraded and will have the ability to discharge, at Discharge Point 002 (a new discharge point), to the Glenn-Colusa Irrigation District (GCID) Lateral 26-2, a tributary to the Colusa Basin Drain. The latitude and longitude of the discharge points is as follows:

<u>Discharge Point</u>	<u>Latitude</u>	<u>Longitude</u>
001 (Agricultural Drain C)	39° 29' 34"	122° 11' 16"
002 (GCID Lateral 26-2)	39° 30' 08"	122° 11' 28"

3. The current treatment system consists of a comminutor, primary aeration ponds, stabilization ponds, and disinfection. The Report of Waste Discharge characterizes the discharge as follows:

Average Monthly Flow	1.22 million gallons per day (mgd)
Maximum Daily Flow	2.62 mgd
Design Flow (current plant)	1.12 mgd
Design Flow (upgrade)	1.2 mgd

Average dry weather flow (ADWF)

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<u>Constituent</u>	<u>Average Daily Concentration</u>	<u>Maximum Daily Concentration</u>
BOD ₅ ^a	16 mg/L	52 mg/L
Total Suspended Solids (TSS)	63 mg/L	110 mg/L
Coliform Bacteria	39 MPN/100 mL	350 MPN/100 mL

^a 5-day, 20°C biochemical oxygen demand

4. The City is currently constructing plant improvements to upgrade the processes to meet requirements included in the existing NPDES permit. Upon completion of the plant upgrades, the treatment system will consist of influent screening, extended aeration activated sludge with secondary clarifiers, continuous backwash filters, disinfection with sodium hypochlorite, dechlorination using calcium thiosulfate, equalization and emergency storage ponds, and sludge storage lagoons.
5. The Central Valley Water Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the basin. The requirements of this Order implement the Basin Plan.
6. The U.S. Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995, and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These rules contain water quality criteria applicable to this discharge. The State Water Resources Control Board (State Water Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains guidance on implementation of the NTR and the CTR.

BENEFICIAL USES OF THE RECEIVING STREAM

7. The Basin Plan at page II-2.00 states: "Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 . The beneficial uses of any specifically identified water body generally apply to its tributary streams." Agricultural Drain C and GCID Lateral 26-2 are in the Colusa Trough Hydrologic Sub Area (520.21) of the Glenn Colusa Hydrologic Area in the Colusa Basin Hydrologic Unit. The Basin Plan does not specifically identify beneficial uses for Agricultural Drain C or GCID Lateral 26-2. GCID Lateral 26-2 is used for irrigation of crops and at times to supply water to the Sacramento Wildlife Refuge. Agricultural Drain C and GCID Lateral 26-2 are tributary to the Colusa Basin Drain. The Colusa Basin Drain is the first body of water downstream of Agricultural Drain C and GCID Lateral 26-2 for which the Basin Plan has identified existing and potential beneficial uses. The beneficial uses of the Colusa Basin Drain, as identified in Table II-1 of the Basin Plan, are agricultural irrigation and stock watering (AGR); water contact recreation, including canoeing and rafting (REC-1); warm and potential cold freshwater aquatic habitat

(WARM and COLD); warm water fish migration habitat (MIGR); warm water spawning, reproduction, and/or early development habitat (SPWN); and wildlife habitat (WILD). Other beneficial uses identified in the Basin Plan apply to Agricultural Drain C, including groundwater recharge and freshwater replenishment. The Basin Plan states, on page II-1.00, "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning..." and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the state; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

Upon review of the flow conditions, habitat values, and beneficial uses of Agricultural Drain C and GCID Lateral 26-2, and based on hydraulic continuity, and aquatic life migration, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Colusa Basin Drain, are applicable to Agricultural Drain C and GCID Lateral 26-2.

8. The Basin Plan states that "Water Bodies within the basins that do not have beneficial uses designated in Table II-1 are assigned MUN designations in accordance with the provisions of State Water Board Resolution No. 88-63 which is, by reference, a part of this Basin Plan." State Water Resources Control Board Resolution No. 88-63 "Sources of Drinking Water" provides that "All surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards with the exception of: ...2.b. The water is in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters...". Agricultural Drain C and GCID Lateral 26-2 meet the criteria for an exemption from the beneficial use of municipal and domestic supply.
9. The Regional Board finds that the beneficial uses identified in the Basin Plan for the Colusa Basin Drain are applicable to Agricultural Drain C and GCID Lateral 26-2 based upon the following:
 - a. *Agricultural Supply*

Water from Agricultural Drain C is periodically transferred via Agricultural Drain B-1 to GCID Lateral 25-1 for use as irrigation supply water. GCID Lateral 26-2 is used for irrigation of crops.
 - b. *Water Contact Recreation (including canoeing, rafting)*

The Regional Board finds that the discharge flows through areas where there is limited public access to Agricultural Drain C and GCID Lateral 26-2; however, exclusion of adjoining property owners and the public is unrealistic.

- c. *Warm and Cold Freshwater Habitats (including preservation or enhancement of fish and invertebrates), Warm Water Fish Migration Habitat, Warm Water Spawning, Reproduction, and/or Early Development and Wildlife Habitat*

Agricultural Drain C and GCID Lateral 26-2 flow to the Colusa Basin Drain and at times to the Sacramento Wildlife Refuge Area. The Basin Plan (Table II-1) designates the Colusa Basin Drain as being a warm and potentially cold freshwater habitat. Pursuant to the Basin Plan tributary rule, the warm and cold freshwater habitat designations applied to the Colusa Basin Drain also apply to Agricultural Drain C and GCID Lateral 26-2. California Department of Fish and Game (DFG) staff have confirmed the area streams as supporting warm water fisheries, and that salmonids are generally not present. Because of the tributary rule in the Basin Plan, it is required to apply the beneficial uses of the downstream water body. The COLD or SPWN designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L. The WARM designation requires the in-stream dissolved oxygen concentration be maintained at, or above, 5.0 mg/L. There are times when the dissolved oxygen level in Agricultural Drain C is below 7.0 mg/L upstream of the discharge. This approach recognizes that, if the naturally occurring in-stream dissolved oxygen concentration is below 7.0 mg/L, the Discharger is not required to improve the naturally occurring level. To make changes to the beneficial uses of COLD or SPWN designated by the Basin Plan, a Use Attainability Analysis and subsequent site-specific Basin Plan amendment are required. The required studies have not been performed, therefore, the Regional Board cannot change the designated beneficial uses of the receiving water.

- d. *Groundwater Recharge*

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. During dry weather in many places in California, flowing streams experience these conditions, thus providing groundwater recharge. Groundwater provides a source of municipal and irrigation water supply.

- e. *Freshwater Replenishment*

When water is present in Agricultural Drain C and GCID Lateral 26-2, there is hydraulic continuity between these waters and the Colusa Basin Drain. Agricultural Drain C and GCID Lateral 26-2 contributes to the quantity and impacts the quality of the water in the Colusa Basin Drain.

The Regional Board also finds that, based on the available information and on the Discharger's application, that Agricultural Drain C, absent the discharge from the wastewater treatment plant, is a low-flow stream. The low-flow nature of Agricultural Drain C and the lack of receiving water quality data mean that the designated beneficial uses must be protected, but that no credit for receiving water assimilative capacity is available. The lack of significant

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dilution results in more stringent effluent limitations to protect contact recreational uses and aquatic life and to meet agricultural water quality goals.

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

10. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the *Clean Water Act* (CWA) and amendments thereto are applicable to the discharge.
11. Section 303 (d) of the CWA requires states to identify waters for which implementation of technology-based effluent limitations have not been stringent enough to attain water quality standards for those waters. On 25 July 2003 the USEPA approved the State's updated list of 303 (d) impaired waters, which lists the Colusa Basin Drain as impaired for azinphos-methyl, carbofuran/furandian, diaznon, Group A pesticides, malathion, methylparathion, molinate/odram, and unknown toxicity.
12. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Because the WWTP upgrades will produce a much higher quality effluent (activated sludge followed by filtration), the previous CTR sampling is not representative of the effluent from the new plant. The Central Valley Water Board finds that there is not sufficient information to determine if the discharge has a reasonable potential to cause or contribute to in-stream excursions above applicable water quality standards, and therefore, water quality based effluent limitations are not included in this Order for pollutants that were not already regulated by Order No. R5-01-066. This Order requires additional sampling to make this determination.
13. Section 13263.6(a), California Water Code, requires that "*the regional board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the state board or the regional board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective.*"
14. The USEPA Toxics Release Inventory database does not list any toxic constituents as being discharged to the Willows WWTP, and therefore, effluent limitations for these metals are not included in this permit pursuant to California Water Code (CWC) Section 13263.6 (a).
15. Chlorine is commonly used as a disinfection agent in the treatment of wastewater. Proper disinfection ensures destruction of pathogens prior to discharge to surface waters. The

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Discharger uses chlorine for disinfection of the wastewater at the treatment plant. Because chlorine poses a threat to human health and is especially harmful to aquatic organisms, a dechlorination process is necessary for the removal of chlorine. For dechlorination, the Discharger will use calcium thiosulfate, which combines with chlorine, to render it relatively unreactive and thus removes it from the waste stream. Inadequate dechlorination may result in the discharge of chlorine to the receiving stream and cause toxicity to aquatic life. The Basin Plan prohibits the discharge of toxic substances in toxic concentrations.

The USEPA has developed Ambient Water Quality Criteria for the protection of freshwater aquatic life. The recommended maximum one-hour average and four-day average concentrations for chlorine are 0.02 mg/L and 0.01 mg/L, respectively. Effluent limitations for chlorine are included in this Order and are based on the Basin Plan narrative toxicity objective.

16. The existing permit established evidence of a reasonable potential for the plant effluent to exceed the USEPA Water Quality Criteria for ammonia and set limits based on effluent pH and temperature. Domestic wastewater contains ammonia concentrations at approximately 30 mg/l, if this ammonia is not removed the discharge could be toxic. If the wastewater is not treated to remove ammonia, the discharge would present a reasonable potential cause toxicity to aquatic life. The Basin Plan prohibits the discharge of toxic materials in toxic concentrations. This permit includes effluent limitations for ammonia.
17. The beneficial uses of Agricultural Drain C, Logan Creek and GCID Lateral 26-2 include contact recreational uses and irrigation. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The California Department of Health Services (DHS) has developed reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22) for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, school yards and other areas of similar public access, that wastewater be adequately disinfected, oxidized, coagulated, clarified and filtered and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median. Title 22 is not directly applicable to surface waters, however the Central Valley Water Board finds that it is appropriate to apply the DHS reclamation criteria because Agricultural Drain C, Logan Creek and GCID Lateral 26-2 may be used for agriculture and contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops. The application of tertiary treatment processes results in the ability to achieve lower BOD and TSS concentrations than the equivalent to secondary standards prescribed in the existing permit. The BOD and TSS limitations have been revised to tertiary standards beginning on 1 March 2007 when the new treatment processes will be operational. The establishment of tertiary limits has not been previously required for this discharge, therefore, a revised schedule for compliance with the tertiary treatment requirement is included as a provision in this Order. This revised schedule allows an additional year over the existing schedule, but is still less than 5 years.

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18. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
19. As stated in General Provisions, No. 13 of *Standard Provisions and Reporting Requirements, For Waste Discharge Requirement* (February 2004), this Order prohibits bypass from any portion of the treatment facility. The USEPA, at 40 CFR 122.41 (m), defines bypass as the intentional diversion of waste streams from any portion of a treatment facility and at 40 CFR 122.41 (m) (4) prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. The State Water Board has adopted Order No. WQO-2002-0015, which cites these regulations as allowing bypass only for essential maintenance to assure efficient operation. In United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) a federal district court in Ohio required construction when greater plant capacity was needed to avoid bypasses.

Section 301 of the CWA requires, not later than 1 July 1977, that publicly owned wastewater treatment works meet effluent limitations based on secondary treatment or any more stringent limitation necessary to meet water quality standards. At 40 CFR 133, the USEPA establishes the minimum level of effluent quality attainable by secondary treatment for BOD, TSS, and pH. BOD is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The suspended solids content is also an important characteristic of wastewater. The secondary treatment standards for BOD and TSS are indicators of the effectiveness of the treatment processes. The principal infectious agents that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Secondary treatment has been shown to be effective for pathogen removal.

A wet weather influent waste stream may contain significantly diluted levels of BOD and TSS. A bypassed diluted waste stream may have BOD and TSS levels that meet the secondary objectives, either alone or when blended with treated wastewater. However, the bypassed waste stream would not have been treated to reduce pathogens or other individual pollutants. The indicator parameters of BOD and TSS cannot be diluted to a level that may indicate the adequate treatment has occurred as an alternative to providing appropriate treatment.

20. CWA Sections 303 (a-c), require states to adopt numeric water quality criteria where they are necessary to protect designated uses. The Central Valley Water Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, does not allow changes in water quality less than that prescribed in water quality control plans (Basin Plans). The Basin Plan states that: "The numerical and narrative water quality objectives define minimum standards that the Central Valley Water Board will apply to regional waters in order to protect the beneficial uses." This Order contains receiving water limitations based on the Basin Plan numerical and narrative water quality objectives for

biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity and turbidity.

PRETREATMENT

21. The design flow of the Willows WWTP is less than 5 mgd, and the facility does not receive discharges from industrial users, and therefore, the Discharger is not required to develop a pretreatment program pursuant to USEPA regulations at 40 CFR 403.

GROUNDWATER

22. Unless otherwise designated by the Central Valley Water Board, the beneficial uses of all groundwaters of the Central Valley Region are municipal and domestic water supply, agricultural supply, and industrial service and process supply. Discharges authorized by this Order may not cause or contribute to degradation of groundwater or interfere with beneficial uses.

COLLECTION SYSTEM

23. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs this raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.
24. Sanitary sewer overflows consist of varying mixtures of domestic sewage, industrial wastewater, and commercial wastewater. This mixture depends on the pattern of land use in the sewage collection system tributary to the overflow. The chief causes of sanitary sewer overflows include grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and contractor caused blockages.
25. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, and other pollutants. Sanitary sewer overflows can cause temporary exceedances of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.

26. The Discharger is expected to take all necessary steps to adequately maintain and operate its sanitary sewer collection system. This Order requires the Discharger to prepare and implement a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.
27. The City of Willows is currently developing a capital improvements program for the collection system that will address repairs to the collection system both in the public right-of-way and on private property. Implementation of this program will begin in 2006.

STORMWATER

28. The USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from municipal sanitary sewer systems. Wastewater Treatment Plants are applicable industries under the storm water program and are obligated to comply with the Federal Regulations. Storm water discharges from the WWTP are regulated under the General Permit for Discharges of Storm Water Associated with Industrial Activities (State Water Resources Control Board, Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001). This facility is covered under the general storm water permit, therefore this Order does not include storm water provisions.

GENERAL

26. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional effluent limitations.
27. California Water Code Section 13267 states, in part, "(a) A Regional Board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation... the Regional Board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Board requires." The accompanying Monitoring and Reporting Program is issued pursuant to CWC Section 13267 and is necessary to assure compliance with these Waste Discharge Requirements. The City of Willows and ECO Resources, Inc. are responsible for the discharges, which are subject to this Order.
28. The Central Valley Water Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The Information Sheet, Monitoring and Reporting Program No. R5-2006-XXXX, and Attachment A are a part of this Order.
29. The discharge is presently governed by Waste Discharge Requirements Order No. R5-01-066, adopted by the Central Valley Water Board on 16 March 2001.
30. The USEPA and the Central Valley Water Board have classified this discharge as a major discharge.

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31. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with CWC Section 13389.
32. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
33. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.
34. This Order shall serve as an NPDES permit pursuant to CWA Section 402, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. R5-01-066 is rescinded and the City of Willows and ECO Resources, Inc., their agents, successors and assigns, in order to meet the provisions contained in CWC Division 7 and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Findings of this Order is prohibited.
2. The by-pass or overflow of wastes to surface waters or surface water drainage is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

B. Effluent Limitations:

1. Effluent discharged at Discharge Point 001 shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>4-Day Average</u>	<u>7-Day Median</u>
BOD ₅ ^a	mg/L	60 ^b	90 ^b	120 ^b		
	lbs/day ^c	560	840	1,120		
TSS	mg/L	110 ^b	165 ^b	220 ^b		
	lbs/day ^c	1,030	1,540	2,060		
Chlorine	mg/L			0.02 ^d	0.01	

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>4-Day Average</u>	<u>7-Day Median</u>
Total Coliform Bacteria	MPN/100 mL			23		2.2
Ammonia ^e	mg/L	1.1		2.1		
	lbs/day ^c	11		21		
Ammonia ^f	mg/L	1.9		3.8		
	lbs/day ^c	19		38		

^a Five-day biochemical oxygen demand at 20° C

^b To be ascertained by a 24-hour composite

^c Based upon a design treatment capacity of 1.12 mgd

^d 1-hour average

^e For the period of May 1 through October 31

^f For the period of November 1 through April 30

2. Effluent discharged at Discharge Points 001 and 002 shall not exceed the following limitations once the upgraded treatment facility is in operation, but no later than 1 March 2007:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>4-Day Average</u>	<u>7-Day Median</u>
BOD ₅ ^a	mg/L	10 ^b	15 ^b	30 ^b		
	lbs/day ^c	100	150	300		
TSS	mg/L	10 ^b	15 ^b	30 ^b		
	lbs/day ^c	100	150	300		
Chlorine	mg/L			0.02 ^d	0.01	
Total Coliform Bacteria	MPN/100 mL			23		2.2
Turbidity	NTU					5 ^e
Ammonia ^f	mg/L	1.1		2.1		
	lbs/day ^c	11		21		
Ammonia ^g	mg/L	1.9		3.8		
	lbs/day ^c	19		38		

^a Five-day biochemical oxygen demand at 20° C

^b To be ascertained by a 24-hour composite

^c Based upon a design treatment capacity of 1.2 mgd

^d 1-hour average

^e The daily maximum limit is 5 NTU, the daily average shall not exceed 2 NTU

^f For the period of May 1 through October 31

^g For the period of November 1 through April 30

3. The arithmetic mean of 20°C BOD (five-day) and total suspended solids in effluent samples collected over a monthly period shall not exceed 15 percent of the arithmetic

mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal) after 1 March 2007.

4. The discharge shall not have a pH less than 6 nor greater than 9.
5. The average dry weather discharge flow shall not exceed 1.12 million gallons until 1 March 2007, after which it shall not exceed 1.2 mgd.

C. Toxicity Limitation

Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay.....70 %
Median for any three or more consecutive bioassays90 %

D. Discharge Specifications (Land Disposal)

1. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas or property owned by the Discharger.
2. The dissolved oxygen content in the upper zone (1 foot) of the equalization and storage ponds and sludge lagoons shall not be less than 1.0 mg/L.
3. The equalization and storage ponds and sludge lagoons shall not have a pH less than 6 or greater than 9.
4. The equalization and storage ponds and sludge lagoons shall be managed to prevent breeding of mosquitoes. In particular,
 - a. Weeds shall be minimized.
 - b. Dead algae, vegetation, and debris shall not accumulate on the water surface.
5. Public contact with the wastewater shall be precluded through such means as fences, signs, or other acceptable alternatives.
6. The equalization and storage ponds and sludge lagoons shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

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E. Sludge Disposal:

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least 90 days in advance of the change.
3. Use and disposal of sewage sludge shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
4. If the State Water Board and the Central Valley Water Board become authorized to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR 503 whether or not they have been incorporated into this Order.
5. The Discharger is encouraged to comply with the *Manual of Good Practice for Agricultural Land Application of Biosolids* developed by the California Water Environment Association.
6. Within the Annual Report of each year, the Discharger shall report the volume of sludge generated and its disposition in the previous calendar year.

F. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan, and as such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/L.
2. Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
3. Discoloration that causes nuisance or adversely affects beneficial uses.
4. Ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.

5. Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
6. Floating material in amounts that cause nuisance or adversely affect beneficial uses.
7. Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
8. Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.
9. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
10. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs
11. The ambient temperature in the receiving water to increase more than 5° F above natural receiving water temperature, nor to increase above 56° F, when such an increase will be detrimental to the fishery – whichever is more restrictive.
12. Deposition of material that causes nuisance or adversely affects beneficial uses.
13. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
14. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether toxicity is caused by a single substance or the interactive effect of multiple substances.
15. Violation of any applicable water quality standard for receiving waters adopted by the Central Valley Water Board or the State Water Board pursuant to the CWA and regulations adopted thereunder.

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16. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
17. The fecal coliform concentration in any 30-day period to exceed a geometric mean of 200 MPN/100 mL or cause more than 10 percent of total samples to exceed 400 MPN/100 mL.
18. Electrical conductivity to exceed 230 umhos/cm (50 percentile) or 235 umhos/cm (90 percentile) at Knights Landing above Colusa Basin Drain; or 240 umhos/cm (50 percentile) or 340 umhos/cm (90 percentile) at I Street Bridge, based upon previous 10 years of record.
19. Upon adoption of any applicable water quality standard for receiving waters by the Central Valley Water Board or the State Water Board pursuant to the CWA or regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

G. Ground Water Limitations:

The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance. The applicable groundwater objective for coliform bacteria is 2.2 MPN/100 mL (maximum) over any seven day period.

H. Pretreatment Program Provisions

1. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system where incompatible wastes are:
 - a. Wastes which create a fire or explosion hazard in the treatment works;
 - b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
 - c. Solid or viscous waste in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;
 - d. Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;

- e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the treatment works is designed to accommodate such heat;
 - f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants, except at points predesignated by the Discharger.
2. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewage system that either alone or in conjunction with a discharge or discharges from other sources:
- a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or
 - b. Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.
3. The Discharger shall notify industrial users, subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N, of their discharge effluent limitations. The limitations must be at least as stringent as the pretreatment standards contained in the applicable federal category. The Discharger may develop more stringent technically based local limitations if it can show cause. The Discharger shall notify the Regional Board if an industrial user violates its discharge effluent limitations to the collection system.

H. Provisions:

- 1. Treatment facilities shall be located and operated to prevent inundation or washout due to floods with a 100-year return frequency.
- 2. The existing permit included a compliance schedule for achieving compliance with the tertiary treatment requirements and associated Effluent Limitations of that order. The compliance schedule is revised to have the following time schedule:

<u>Task</u>	<u>Report Due Date</u>	<u>Compliance Due</u>
Submit Annual Status Report	15 April, annually	
Full Compliance		1 March 2007

The Discharger shall submit to the Central Valley Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance.

3. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
4. **Within one year of the adoption date of this order** the Discharger shall submit to the Central Valley Water Board a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Overflow Response Plan (SSO Plan) that describes the actions designed to prevent or minimize the potential for sanitary sewer overflows. The Discharger shall amend the SSO Plan as necessary. The Discharger shall ensure that the up-to-date SSO Plan is readily available to maintenance personnel at all times and that personnel are familiar with the plan.
5. At a minimum, the Operation and Maintenance portion of the SSO Plan shall contain or describe the following:
 - a. Plans of the sewer system, identifying sewer mains, manholes, cleanouts, any air relief valves, and any other specific critical equipment or infrastructure;
 - b. A listing of equipment and elements to be inspected, a description of inspection procedures and inspection frequency, and sample inspection forms;
 - c. A schedule for routine inspection and testing of manholes, sewer system piping, valves, and other key system components, and rehabilitation procedures to be followed in the case that such rehabilitation is necessary;
6. At a minimum, the Overflow Prevention and Response portion of the SSO Plan shall contain or describe the following:
 - a. Response procedures for sanitary sewer overflows. Procedures shall minimize the volume of sewage that may enter surface waters, and minimize the adverse effects of sewer overflows on water quality and public health. Procedures shall also ensure that all overflows are properly identified, responded to and reported; and

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- b. A plan to notify the Glenn County Environmental Health Department and a public notification plan, in which any posting of areas contaminated with sewage is performed at the direction of the Glenn County Environmental Health Department. All parties with a reasonable potential for exposure to an overflow event shall be notified. Any spill in excess of 1,000 (one thousand) gallons to a surface water must also be immediately reported to the State of California Office of Emergency Services. Failure to report such a spill in accordance with the above laws and regulations is a misdemeanor punishable by fine and imprisonment.
7. The SSO Plan shall include a description of the specific steps that will be taken over the lifetime of this Order to further reduce I&I to the Willows WWTP and a schedule for achieving the steps described in that document.
8. Within **180 days** of receipt of the 12th effluent sample results analyzed for priority pollutants, but no later than 1 October 2008, (see Monitoring and Reporting Program No. R5-2006-XXXX), the Discharger shall submit a report summarizing the results and detailing whether any priority pollutant has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives or NTR and CTR criteria. If such reasonable potential is determined, the Central Valley Water Board will reopen this Order and include effluent limits for those pollutants.
9. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above effluent toxicity limitations established by this Order, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Central Valley Water Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included.
10. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.
11. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the Emergency Planning and Community Right to Know Act of 1986.
12. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)," dated

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February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."

13. The Discharger shall comply with Monitoring and Reporting Program No. R5-2006-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports. DMRs must be signed and certified as required by the standard provisions. The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

14. This Order expires on **1 January 2011**, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
15. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from, the State Water Board (Division of Water Rights).
16. In the event of any change in operation, control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC. Transfer shall be approved or disapproved in writing by the Executive Officer.

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WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2006-XXXX
NPDES NO. CA0078034
CITY OF WILLOWS AND ECO RESOURCES, INC.
WILLOWS WASTEWATER TREATMENT PLANT
GLENN COUNTY

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I, KENNETH D. LANDAU, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

KENNETH D. LANDAU, Acting Executive Officer

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